

WHAT IS CLAIMED IS:

1. A polishing apparatus for polishing a substrate comprising:
  - a turntable having a polishing surface;
  - a substrate holder for holding a substrate and bringing the substrate into contact under pressure with said polishing surface;
  - a dresser including a dresser tool adapted to be brought into contact under a pressure with said polishing surface to dress or condition said polishing surface; and
  - a pressure device connected to said dresser for moving said dresser between a raised position where said dresser is spaced away from said polishing surface and a dressing position where said dresser rests on said polishing surface such that said dresser tool is in contact with said polishing surface under a pressure exerted by the weight of said dresser itself, said pressure device including a member for applying an upward force to said dresser to decrease the pressure.
2. A polishing apparatus as set forth in claim 1 wherein said dresser further comprises a dresser shaft connected to said dresser tool and extending upward vertically from the dresser tool, and said pressure device comprises a cylinder equipped with a piston to which said dresser shaft is connected.
3. A polishing apparatus as set forth in claim 2 wherein a kinetic frictional resistance against movement of said piston in said cylinder is 0.5 kg or less.

4. A polishing apparatus as set forth in claim 3 wherein there are provided first and second pressure supply devices fluidly connected to said cylinder so that said first pressure supply device supplies a pressurized fluid to said cylinder to apply said upward force to said piston and said second pressure supply device supplies a pressurized fluid to said cylinder to apply said downward force to said piston.

5. A polishing apparatus comprising:

a turntable having a polishing surface;

a substrate holder for holding a substrate and bringing the substrate into contact under pressure with said polishing surface;

a dresser tool adapted to be brought into contact under pressure with said polishing surface to dress or condition said polishing surface; and

a dresser tool holding device for holding said dresser tool and moving said dresser tool between a raised position where said dresser tool is spaced away from said polishing surface and a dressing position where said dresser tool rests on said polishing surface with a pressure being exerted by said dresser tool on said polishing surface by the weight of said dresser tool itself.

6. A polishing apparatus as set forth in claim 5 wherein said dresser tool holding device supports said dresser tool in such a manner that the dresser tool is substantially freely movable in a vertical direction relative to said dresser holding device.

7. A polishing apparatus as set forth in claim 6 wherein

0977707-020701

said dresser tool holding device comprises an air cylinder equipped with a piston connected to said dresser tool to move said dresser tool between said raised position and said dressing position, there being provided a shaft extending vertically and having a lower end connected to said dresser tool and an upper end connected to said piston.

8. A polishing apparatus as set forth in claim 7 wherein said dresser tool is freely movable in a vertical direction relative to said lower end of said shaft.

9. A polishing apparatus as set forth in claim 8, wherein said dresser shaft is provided at its lower end with a flange extending radially outwardly from the lower end and having vertical through holes formed therein and said dresser tool is provided with a plurality of vertical connecting pins extending through said through holes of said flange.

10. A polishing apparatus as set forth in claim 9, wherein each of said connection pins is provided with a head adapted to be engaged with an upper surface of said flange when said dresser tool is positioned at said raised position.

11. A polishing apparatus as set forth in claim 10, where there is provided an automatic aligning roller bearing connected between said flange and said dresser tool to enable the dresser tool to tilt in response to undulations on said polishing surface.